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MAJOR SCOTT E. RUBITSKY

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from the Least.**

Approved by:

Colonel Robert Chadwick Monograph Director

Colonel Robin P. Swan, MMAS Director, School of Advanced
Military Studies

Philip J. Brookes, Ph.D. Director, Graduate Degree
Program

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ABSTRACT

Strategic Lift and the Force Projection Army. Getting the Most from the Least. By Major Scott E. Rubitsky, USA, 61 pages.

This paper analyzes strategic lift and the support needed to provide mobility to a Force Projection Army. The paper begins with an introduction about the strategic responsiveness of the United States Army and an explanation about why the Army is attempting to introduce the medium-weight brigade. The strategic lift triad is then analyzed using three elements that help form a Force Projection Army, rapid deployment from stateside bases, forces that are postured for a forced entry, and violent exploitation of the enemy following the initial shock of the assault, for their applicability to a Force Projection Army. A brief explanation and introduction about the strategic lift triad is given. This is followed by an explanation about why the United States Army has adopted this program. Finally, the paper draws a conclusion about the viability and usefulness of the strategic lift triad to the United States Army.

This paper argues that the strategic lift triad will support a Force Projection Army and that the current procurement of systems in support of the triad will help make the United States Army more responsive to the Nations needs well into the 21st Century.

TABLE OF CONTENTS

	Page
APPROVAL PAGE	
ABSTRACT	i
CHAPTER	
1. Introduction	1
a) Section one, Background	1
b) Section two, Purpose	8
2. Strategic Responsiveness	10
a) Section one, The Three Elements	10
3. Power Projection Enablers	19
a) Section one, The Triad	19
b) Section two, Army Pre-positioned Stocks	20
c) Section three, Airlift	24
d) Section four, Sealift	29
e) Section five, The Power Projection Installation	33
f) Section six, Evaluating Lift Requirements and Capabilities	34
3. Conclusion	37
NOTES	43
BIBLIOGRAPHY	49

CHAPTER 1: INTRODUCTION

The military of the future must be agile, lethal, readily deployable and require a minimum of logistical support. Land forces must be lighter, more lethal and easier to deploy. These forces must be organized in smaller, more agile formations rather than cumbersome divisions.¹

George W. Bush
Governor of Texas
Republican Presidential Candidate

Section one. Background

The National Defense Panel wrote in *Transforming Defense: National Security in the 21st Century*, in December 1997, that the ability of United States Forces in the Twenty-first Century

to project lethal forces – in the air, on the sea, or on the land – will be essential. Toward that end, our ability to project combat power anywhere in the world will require new technologies, operational concepts, and capabilities to meet new challenges.²

History has shown that many wars have been won or lost as a result of, or lack of, logistics. The definition of logistics needs to be expanded, in this case, to include the ability to transport equipment and personnel over long distances by air, sea, or land to any potential crisis spot on the Earth.

From the 1950's through the 1980's, the United States Army was oriented on deterring known forces in a known environment in relatively well-developed countries of the world. The nation pre-positioned forces in areas of national vital interest with personnel trained and equipment designed to meet a known threat. Moving units to meet the threat was of little concern because most of the equipment and personnel were already in position. If there was a requirement to move additional forces and equipment to a trouble spot to meet unforeseen

circumstances, the forces that were forwardly deployed were to delay until additional forces and equipment could be sent from the United States.

The fall of the Soviet Union and the end of the Cold War has ushered in a new era. No longer can the United States Army rely on forces or equipment pre-positioned in areas with a known threat. In the Twenty-first Century, United States Armed Forces will also not be able to rely on being deployed to areas of the world that have developed infrastructures. A recent speaker to the School of Advanced Military Studies summed it up best when he said,

Pre-positioned stocks are great if you guess right. The ability to pre-position stocks for a Major Theater of War (MTW) is easy, but the majority of the opportunity for deployment of United States Forces in the future is to Small Scale Contingency Operations. It is not easy to guess where the next regional conflict will erupt.³

Numerous deployments to the Persian Gulf, Somalia, and the Balkans over the last ten years have shown this to be true. The United States Army must realize that there are different strategic realities confronting the nation today. In the future, Army planners can not count on operations taking place in areas where the United States has pre-positioned, prepared forces, and equipment.

Since World War I, the United States has had the best transportation and logistical system in the world. This is largely due to its ability to afford redundancy in its systems. Today, fiscal restraints, the end of the Cold War, and mandated inventory reductions set forth by Congress require the logistical and transportation community to reorganize and provide a more cost-effective capability. Logistical sustainment and the ability to move material and men to trouble spots have always played a pivotal role in determining the possibilities of war. As the United States

has evolved from a forward-deployed force to a Force Projection Army, the ability to project combat power from Continental United States (CONUS) based units, in support of contingency operations, has become of the utmost importance to the Nation and the Army.

Although the United States Army has transformed itself from a forward-deployed force to a Force Projection Army, it still has the intent of providing strategic responsiveness through forward-deployed forces around the world, where practical. In President Clinton's *A National Security Strategy for a New Century*, he states that,

Maintaining a substantial overseas presence promotes regional stability by giving form and substance to our bilateral and multilateral security commitments and helps prevent the development of power vacuums and instability.⁴

Where it is not practical to station troops, the United States Army will use its forward positioned equipment and capabilities, engagement, and force projection ability from the Continental United States (CONUS) or other locations, mainly in Europe, to meet its world wide responsibilities.⁵

The United States Army has consisted of light, heavy armored mechanized infantry and armored cavalry since the end of World War II. The current force structure of the Army consists of two basic types of divisions. Light divisions, consisting of the 82nd Airborne Division and two others, and heavy armored and mechanized infantry divisions, like the 3rd Infantry Division located at Fort Stewart, Georgia. Each type of division has its own inherent strengths and weaknesses. The light divisions are easily deployed but they have little vehicular mobility, no armor protection, and small amounts of organic firepower while the heavy divisions

have substantial firepower but are extremely difficult to transport over strategic and operational distances. Movement into and around areas of the world that has an underdeveloped infrastructure is especially challenging for heavy divisions.⁶

Light and heavy division configurations have persisted since the end of the Second World War. With the possible exception of the 101st Airborne Division (Air Assault), the light and heavy divisions have survived through "several major advances in military technological and geostrategic affairs."⁷ Only once during the last fifty years has the United States Army attempted to look seriously at a concept different from the light/heavy divisions.

During the 1980's, the Army looked at a force with the capabilities that fell between the light and heavy divisions. It was known as a medium force and was designated the 9th Infantry Division (Motorized), located at Fort Lewis, Washington. The 9th Infantry Division was deactivated in 1989 just before the Persian Gulf War. In a bit of irony, the same location is now being used to develop, activate, and train today's version of a medium-weight force.

Logistical and transportation systems are heavily dependent on timely and reliable road, sea and air networks in order to be effective. Many of the operations the United States Army has found itself involved in since the end of the Cold War have been in countries with underdeveloped infrastructures to include Haiti, Somalia, and Albania. Without developed transportation networks, the ability to deploy forces and equipment to contingency operations has been hampered in the past. The United States Army must develop an ability to deploy forces quickly to areas where the local infrastructure does not support entry or military operations.

The difficulties an underdeveloped infrastructure can present to the United States Armed Forces were painfully obvious to the world during the deployment of Task Force Hawk to Albania in March 1999. With a maximum on the ground (MOG) capability of one C-5 aircraft at the international airport in Tirana, and little or no port facilities at Dvires, it took six weeks to deploy a small force of five thousand and their equipment to support air operations in Kosovo.⁸ In addition to the problems encountered with Task Force Hawk, mobility problems of United States heavy forces were also evident in 1995-96 during Operation Joint Endeavor. It took nearly two months to deploy a reinforced brigade consisting of two mechanized infantry and two armor battalions by rail and road to Bosnia.

A tool being used to help shape the future of the United States Army and the Department of Defense is *Joint Vision 2010*. It is the conceptual template for joint operations and is designed to help achieve a force in support of the National Military Strategy that is a decisive power projection force. Being able to design a warfighting force that can be projected into undeveloped, hostile, operational environments in a timely manner is key to the nation's ability to develop a decisive power projection force. The United States Army, in concert with the Department of Defense, has written *Army Vision 2010* as its cornerstone document to help it develop its future power projection force.

Joint Vision 2010, *Army Vision 2010*, the Quadrennial Defense Review, the Defense Reform Initiative, and the National Defense Panel have all stated the Department of Defense needs to adopt a warfighting design capable of adapting to the rapidly changing world. All these studies suggest that the Department of

Defense is too ponderous, bureaucratic, and unaffordable and needs to change to be more robust, flexible, and cost-effective. For the United States Army and the Secretary of the Army, Louis Caldera, this means becoming "the number one option for all warfighting and early entry missions"⁹ in the future.

Michael Vickers, Director of Strategic Studies at the Center for Strategic and Budgetary Analysis has written that, "The general problem the Army has is that it's too bulky to be strategically relevant."¹⁰ Strategic lift is fundamentally a physics problem. The question to answer is how do you get as much as you can of something, with someone, somewhere in the least amount of time to be relevant to the operational or geographic combatant commander? The answer to 'the least amount of time' portion of the above question has eluded the Army for over fifty years.

The Chief of Staff of the Army, General Eric K. Shinseki, realizing that the deployability of the United States Army is vital to the strategic goals of the nation, and the continuing viability of the Army to geographic combatant commanders, has taken steps to try and improve the Army's power projection capabilities. To help fulfill the Army's vision of strategic responsiveness, General Shinseki issued a memorandum, dated December 27, 1999, to corps and division commanders, about the Battle Command Training Program (BCTP). In the memorandum, he directed that "division and corps commanders will include, in some phase of the BCTP density, "deployment" as a primary METL task."¹¹

The Chief of Staff is also taking further steps to improve the strategic deployability of the Army. In an *Army Times* article on October 25, 1999 he stated he wants to

erase the distinction between light and heavy forces and turn all divisions into an "objective force" of standardized medium-weight brigades that pack the punch of today's heavy brigades but can be deployed into battle as quickly as today's light units.¹²

The design of these new medium-weight brigades is meant to allow the Army to respond to crises far more quickly than today's heavy forces and with more lethality than the light forces.¹³

General Shinseki has stated that the United States Army will accomplish strategic dominance using the new medium-weight brigades across the entire spectrum of operations by providing to the nation

an array of deployable, agile, versatile, lethal, survivable, and sustainable formations, which are affordable and capable of reversing the conditions of human suffering rapidly and resolving conflicts decisively.¹⁴

The development of the medium-weight brigades is an attempt by the United States Army to control costs, lighten the weight of the force, and ultimately provide the means to project the force, from its bases in the continental United States to any hot spot in the world, rapidly and decisively. The United States Army will do this by developing some new and advanced systems that will reduce the cost, weight, and transportation burden of the United States Army to the Navy and Air Force.

The National Security Strategy and National Military Strategy both state that the Armed Forces of the United States are not currently faced with a peer competitor. It has been stated that "if the requirement is there, the Air Force will get

us there.”¹⁵ This may not be the case. The culmination of vastly superior armies against non-peer forces has occurred in the past and will likely occur again. The prestige of the United States as the world’s sole remaining superpower depends on the strategic deployability of its forces. The requirements for the United States Army to deploy forces in support of the various Combatant Commanders and the nation must not fail due to an inability to get forces where they are needed in a timely manner. If the United States Armed Forces are currently in a time of strategic pause because they face no peer competitors, now is the time to act to ensure that the United States Army stays relevant to the nations needs.

This monograph will explore the ability of the United States Armed Forces to support the National Military Strategy with a power projection Army and will assess the utility of methods and techniques for the strategic responsiveness of the United States Army.

Section two. Purpose

The purpose of this monograph is to answer the question; will improvements in the strategic triad since the Persian Gulf War support the requirements of a Force Projection Army? The ability of the strategic triad to support the three elements that form the essence of a Force Projection Army, rapid deployment from stateside bases, forces that are postured for a forced entry, and violent exploitation of the enemy following the initial shock of the assault, will form the criteria for analysis in this paper.

Chapter one provided background and information on the Army’s strategic responsiveness during the last fifty years and the beginning of the implementation

of the medium-weight forces. Chapter two explains the strategic requirements of the Army and looks in detail at General Eric K. Shinseki's vision for the future Army force structure and his attempt to improve the weight, lethality, and survivability of these future forces. Chapter three analyses the strategic triad and force projection capabilities of the United States and shows linkage between these capabilities and the improvement of the triad during the last ten years. Chapter four offers a conclusion about the ability of the strategic triad to support the elements of a Force Projection Army, identified as criteria, in light of the improvements in the capability of the strategic triad and the adoption by the United States Army of General Shinseki's vision for its future.

CHAPTER 2: Strategic Responsiveness

We trained hard, but it seemed every time we were beginning to form up into teams, we would be reorganized. I was to learn later in life that we tend to meet any new situation by reorganizing, and a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency, and demoralization.¹⁶

Petronius Arbiter
210 B.C.

Section one. The Three Elements

The National Military Strategy of the United States of America calls for the United States Armed Forces to implement the National Security Strategy by shaping, responding and preparing. The Armed Forces of the United States are to implement the National Military Strategy in support of the President's *National Security Strategy for a New Century* by the use of four strategic concepts. One of the strategic concepts articulated in the National Military Strategy is power projection. Power projection and more specifically, global power projection is what provides our national leaders with the options they need to respond to potential crises.¹⁷

Power projection is defined as "the ability to rapidly and effectively deploy and sustain United States military power in and from multiple, dispersed locations until conflict resolution."¹⁸ Power projection is what provides the nation the ability and flexibility to respond quickly "with force packages that can be adapted rapidly to the environment in which they must operate, and if necessary, fight their way into a denied theater."¹⁹ The United States Military must be able to respond to any crisis across the "full range of military operations, from humanitarian assistance to fighting

and winning Major Theaters of War (MTW) and conducting concurrent smaller-scale contingencies."²⁰

Rapid power projection is much more than the ability of the United States Army to get to the fight quickly. It includes many critical transportation functions that enable the force to deploy. Wargames conducted in support of the Force XXI and the Army After Next have established findings that point to mobility and speed of maneuver as being the two most important factors contributing to the success of the battle force.²¹

The Army After Next battle force will need to be extremely maneuverable, capable of deploying directly from the Continental United States (CONUS) onto the battlefield, and capable of using terrain for advantage in tactical engagements.²²

All three of these capabilities are critical to the future success of the United States Army as it continues to transform its force to a power projection force.

The current strategic environment presents both opportunities and challenges. The National Military Strategy states, "We are not confronted by a peer competitor – a hostile power of similar strength and capability – nor are we likely to be in the near future."²³ Although no peer competitor exists, the United States is confronted by Regional and Transnational Dangers, Asymmetric Challenges and Wild Cards.²⁴ These challenges can be just as tricky and complicated a problem to solve as the challenge of the Soviet threat was for fifty years.

To respond to these threats, General Eric K. Shinseki has articulated his power projection goal for the Army in his vision statement. He has stated that he wants the United States Army to respond to a crisis by delivering through power projection the first combat forces in a brigade combat team anywhere in the world in

ninety-six hours. That brigade is to be followed with a warfighting division within 120 hours and five divisions in thirty days.²⁵ He has realized that in order to be ready, relevant and responsive in the future to the nations needs, the United States Army has to reorganize and restructure to arrive faster to trouble spots with a greater sustained capability.

Another of General Shinseki's stated goals is to immediately begin transforming the United States Army "into a full spectrum force which is strategically responsive and dominate at every point on the spectrum of operations."²⁶ In the Army War College, Army After Next (AAN) spring wargame, held in April 1998, players identified four critical factors associated with rapid force projection. The four factors include, streamline and speed force closure, lighten the force, reduce fuel and energy consumption, and provide for soldier support.²⁷ To begin to lighten the force, the Chief of Staff has selected two brigades, one light and one heavy, located at Fort Lewis, Washington as the first combat brigades to be transformed. These brigades are not intended to be experimental, but rather, fully operational units that are combat ready as soon as they can be.

General Shinseki wants to "begin to erase the distinctions between heavy and light forces,"²⁸ as technology allows. He envisions an Army that "will retain today's light force deployability and mobility for decisive outcomes that our heavy forces currently enjoy."²⁹ He also sees the new force having "heavy force lethality through overmatch while giving it deployability and employability in areas currently accessible only by light forces."³⁰

General Shinseki believes that there is no reason why the United States Army should wait twenty years for technologies that are being developed to support Force XXI and the Army After Next (AAN) to begin a conversion to lighter more lethal systems. The immediate conversion of United States Army units to a more strategically deployable force will allow it to exploit more effectively current United States Air Force airlift assets. Because regional challenges still exist in today's world and the Army's ability to deploy powerful forces in support of contingency operations is limited "the service cannot wait for the promise of futuristic high-tech medium units to arrive in the 2020 period."³¹

The Chief of Staff of the Army wants to accomplish this conversion by investing in today's 'off-the-shelf' technology to help the United States Army develop the doctrine, organizational design, and leader training required to provide the agility and versatility required of the new objective force. He wants to "look for future systems which can be strategically deployed by the C-17, but also be able to fit a C-130-like profile for tactical intra-theater lift."³² The requirement to fit this vehicle into a C-130 exists because the United States Air Force will retire the majority of their C-141's by Fiscal Year 2005. The retirement of these aircraft, with no replacement foreseeable anytime in the future, will require the United States Army to rely more than ever on the C-130.

To fit these design requirements, the Chief of Staff has told the developers of the future force to look at systems that reduce the need for logistics and supplies. The intent is to find a common platform, chassis, and caliber of ammunition to reduce the stockpiles required of different parts and supplies. These common

capabilities will provide "solutions which optimize smaller, lighter, more lethal, yet more reliable, fuel efficient,"³³ vehicles, that are to weigh no more than twenty tons, that will be more strategically deployable than the current heavy forces and more survivable than the light forces.³⁴

By requiring these new systems to be more efficient and smaller, General Shinseki attacks the 'physics' of the strategic lift problem. He accomplishes this by reducing the sheer weight of forces and the appetite that these forces had for large amounts of supplies in the past. Eighty percent of the United States Army transportation assets are dedicated to moving fuel and ammunition.³⁵ Efforts to reduce the reliance on these two commodities are essential. "Reduced fuel and energy consumption rates are critical"³⁶ to alleviate the burden the United States Army places on transportation assets.

The reduction in the physical size and consumption rates for these new systems will require the Army to put less combat service support in theater to support these systems. This reduction in combat service support personnel and equipment will also free up space on strategic lift platforms for warfighting forces. These innovations and others will begin to help the United States Army deal with their current structural flaws.

Because the United States Army has evolved from a forward-deployed force to a Force Projection Army, transportation and the ability to provide sustainment to the force has become even more important. The development of these lighter, more reliable and lethal systems will, in-turn, require fewer of them. This will make it easier for the land-based systems to be deployed, at a lower cost and with greater

speed. The ability to deploy forces faster and at a lower cost will help the United States Army become more strategically responsive and relevant to the warfighting Combatant Commanders.

Even with a reduction in the weight of vehicles, the requirement to have a brigade combat team anywhere in the world in ninety-six hours, followed by a division within 120 hours and five divisions in thirty days will require the United States to improve significantly its strategic deployment capabilities. The United States Armed Forces and Department of Defense will have to accomplish this through an enhancement of the strategic triad of airlift, sealift, and prepositioning of assets. It will also require the United States Army to improve its deployment infrastructure through the Strategic Mobility Program.

With no real peer competitor,

It is likely that for the next two decades the United States and its allies will not be confronted by a major military competitor or a collection of states that are capable of successfully threatening our vital interests with conventional combined arms forces.³⁷

That does not mean that some regional adversary will not be able to achieve limited success. For example, Iraq was able to use its conventional armored and mechanized forces bought from the Soviet Union to invade Kuwait, and Serbia used its paramilitary forces to expel millions of Albanian civilians in Kosovo. Neither force was capable of matching the United States and its allies with armed force, but they did create a localized problem until the world was able to respond.

A major difference between the 1950s through the 1980s and today is the proliferation of equipment to Third World countries. There has been a large increase in the amount and capability of equipment available to potential opponents

of the United States and its allies. Before the end of the 1980s, the majority of the Third World countries could not afford armored equipment for their armies. This lack of armored equipment meant that they were mostly light infantry forces that went to battle, either on foot or in trucks. Since the breakup of the Soviet Union these countries have become better armed, with excess Warsaw Pact armored vehicles, rocket artillery, and formidable air defense capabilities. In the meantime, United States rapidly deployable light infantry divisions have remained unarmored with limited short-range artillery for support. This has resulted in a limited use for the light forces and made it more difficult for the policy makers of the United States to use these forces because of the possibility of high casualties.

Furthermore, "future regional predators may reinforce their capabilities with the deft threat or actual use of nuclear-biological-chemical (NBC) weapons."³⁸ This scenario is described as being plausible in the 1997 Quadrennial Defense Review and by the National Defense Panel. The proliferation, availability of a wide array of cheap, long-range ballistic, and cruise missiles armed with NBC capabilities and conventional munitions pose a serious threat to United States forces. Because of the availability of these cheap, accurate weapons, the United States may be putting its forces into greater harm's way against potential adversaries if it takes as long as it did to get to the Persian Gulf.

The focus of the United States Army is no longer one of containing Communism. It is now a Twenty-first Century strategically positioned power projection Army. This requires the Army to maintain an ability to respond in a timely manner to all types of conflict. The ability to respond with an

early deployment of high-performance combat forces during the critical initial phase of a military operation could have a major impact on the duration and cost of the campaign.³⁹

These forces will have to deploy into a theater of operations under an ever-increasing high-end threat that has NBC capable missile delivery systems. The future force must possess the capability to deter potential crises using a number of power projection enablers, such as sealift and airlift, to deploy its forces rapidly.

The successful use of military power in a power projection Army is dependent on unrestrained access to the air and sea. The United States, through the control of the air and sea, is able to project power across great distances to protect its national interests. Dominance of the air and sea allows United States forces the freedom to conduct operations as required and for the protection of military assets.

After Desert Storm, Congress mandated that a study be conducted to determine the military and strategic requirements for an Army that was primarily stationed in the Continental United States (CONUS). To meet the Congresses' intent, the Department of Defense conducted the Mobility Requirements Study in 1992. It was conducted to define future mobility requirements "in light of the revised National Security Strategy, force reductions, potential security threats, and lessons learned from the Persian Gulf War."⁴⁰

The purpose of the study was to determine the capabilities of the strategic mobility forces of the Department of Defense. It was also to determine the ability to deploy and sustain combat and service support forces, identify any shortfalls in the capabilities of the strategic mobility force, and recommend solutions to those

shortfalls. The Mobility Requirements Study (MRS) concluded that the Army could best "increase its deployability through investment in prepositioned material, airlift, sealift, and deployment infrastructure."⁴¹

The United States Army then used the Mobility Requirements Study (MRS) and the Army Strategic Mobility Plan (ASMP) to support the C-17 aircraft program and the construction of nineteen large, medium speed, roll-on-roll-off (LMSR) ships. The plan also called for the procurement of sixteen thousand containers for strategic lift and storage and one thousand four hundred and forty three railcars.⁴² The findings of the Mobility Requirements Study were revalidated in the Bottom-Up Review (BUR) and the Quadrennial Defense Review (QDR).

CHAPTER 3: Power Projection Enablers

Mobility, both strategic and tactical, is the partner of flexible organization. We must be able to shift combat strength rapidly to any threatened point in the world. Strategic airlift of troops by the Air Force is the answer to the requirement of speed...while airlift adds to our strategic mobility, it does not supplant Navy transport for maintaining the lines of heavy supply and reinforcement to overseas theaters. The Navy has provided this support for the Army throughout our history; we cannot foresee the day when it will not be needed.⁴³

Barksdale Hamlett
General

Section one. The Triad

The United States Armed Forces rely on a power projection triad consisting of pre-positioned stocks, strategic airlift and sealift assets, and power projection installations as important enablers for the rapid deployment of its forces. "Robust strategic sealift, air mobility, and ground transportation combined with prepositioned supplies and equipment ashore and afloat, are critical to maintaining strategic agility."⁴⁴ The key to success in power projection is having the ability to rapidly deploy and concentrate combat power in the area of operations.

Forces of the United States will normally require access to developed infrastructure to maintain an ability to project combat power. This infrastructure can be at the point of entry or at an intermediate staging base. Continued development of strategic mobility enhancements like increased airlift capability, the additional prepositioning of equipment and supplies, increased sealift capacity, and additional abilities to handle material at any point needed around the globe will guarantee that the United States retains its strategic agility and mobility.⁴⁵

Section two. Army Pre-positioned Stocks

To help cut deployment times from the Continental United States (CONUS) to potential flash points around the globe, the United States Army has pre-positioned stocks that allow for immediate availability of combat, combat support, and combat service support equipment and supplies. This equipment is located both afloat and on land and is preconfigured to allow United States Army Forces to conduct sustained land combat operations. The program consists of seven heavy-brigade combat sets. Three of the brigade sets are located in Europe, two in Southwest Asia, one is afloat, and one is in Korea. In addition to the sets mentioned above, the United States Army plans to have a division-based set of equipment in Southwest Asia by the beginning of Fiscal Year 2001.⁴⁶

The concept to use pre-positioned stocks in support of force projection and deterrence was conceived during Operation Desert Storm. A dedicated effort has been underway since Operation Desert Storm and Desert Shield to ensure that problems encountered during the build-up and execution of the war are not encountered in the future. Because of that effort, the United States Army has been pre-positioning critical combat and sustainment equipment on ships and land to support deploying soldiers. The program began with four ships carrying general supplies and has expanded to "fourteen ships carrying 870,000 square feet of cargo."⁴⁷ By Fiscal Year 2002, the Army will have pre-positioned over "two million square feet of material in support of power projection."⁴⁸

Pre-positioning allows the United States Army to provide worldwide logistics services to the unified commands in support of the Army's power projection

strategy. The program is designed to store United States Army vehicles, equipment and supplies aboard United States Navy or commercially leased ships. These ships are then positioned in strategic locations throughout the world. When reaction time to a crisis is short and Army units need to deploy by air to a specific location without their organic equipment, they will be met by pre-positioned equipment which has arrived by sea or been stored on land at the arrival location.

The pre-positioning of equipment has allowed the Army to react with heavy forces quicker than was possible in the past. For example, the United States Army's Pre-positioned Afloat Set-3, which is stationed at Guam, in the Indian Ocean, is capable of deploying to tactical assembly areas anywhere in the world in fifteen days.⁴⁹ It has been used in support the United States Central Command (CENTCOM) during Operations Vigilant Warrior and Vigilant Sentinel. Vigilant Warrior was conducted in 1994 by the United States to provide for the defense of Kuwait against another threat by Iraq. Vigilant Sentinel, which began in 1996 and continues today, is used as a deterrent against aggression in the CENTCOM region.

The material located on the twelve ships of Afloat Set-3 is formidable. It consists of two tank battalions, two mechanized infantry battalions, and critical sustainment material for the brigade, in addition to port-opening equipment, and additional sustainment assets for a corps. During Operations Vigilant Warrior and Vigilant Sentinel five of the large, medium-speed, roll-on, roll-off (LMSRs) ships were downloaded in Southwest Asia. The equipment was then reconfigured into

four battalion task forces, each consisting of two tank companies, two mechanized infantry companies, and a forward support company.⁵⁰

After the ships were downloaded and the equipment was reorganized into battalion task force configuration, they were reloaded onto the ships. Each task force, with its support structure, was uploaded onto its own ship. This reorganization allows for greater flexibility in employment of the equipment in the future, by allowing the CINC to ask for any combination of the four ships, depending on the crisis. Additional materials-handling packages were developed to help facilitate the offloading procedures of these ships in the future. The final ship of the five was then uploaded with additional supplies to support the brigade when required by the commander.

The pre-positioning of this war reserve equipment has helped the United States Army respond more quickly to the Combatant Commanders by overcoming two problems. The solutions to these two problems help the United States deal with the physics of power projection.

First, pre-positioning reduces reliance on relatively slow sealift deliveries from CONUS to overseas theaters. Second, pre-positioning avoids the high cost of the large airlift required to deliver sizable quantities of unit equipment in time to meet a CINC's needs.⁵¹

The logistical airlift required to transport today's heavy forces is enormous. For example, "to transport and support a single company of fourteen M1A1 Abrams by air could support a brigade of paratroopers or a battalion of 40-50 light armored fighting vehicles."⁵²

The United States Army's pre-positioned stocks also include other classes of supply. Two of the major stocks include operational projects and sustainment

supplies. Operational projects consist of tailored sets of equipment and supplies for specific missions. These include things for building base camps, pipeline operations, mortuary affairs, and depending on the climate, hot and cold weather clothing. Sustainment supplies are those supplies that allow the United States Army to operate in theater thirty to forty-five days before receiving resupply from the Continental United States (CONUS).

The Army Pre-positioned Stocks provide flexibility in support of joint warfighting needs for each of the CINCs in their various Areas of Responsibilities (AOR). The United States Army has successfully used the pre-positioned stocks in both real world contingency operations and training exercises. These contingency operations and training exercises have validated the reliability and competency of the program. Both the sea-based and

the land-based prepositioning of war stocks becomes a cost-effective way to further expedite rapid deployment. The net effect would be to reduce the need for future investment in strategic lift while increasing our capacity to respond in a timely fashion to those instances of aggression that would concern us the most.⁵³

These vital supplies continue to help enable the power projection capability of the United States Army.

Several ongoing initiatives are aimed at improving the readiness of the forces associated with the pre-positioned equipment. The Department of Defense has a multistage modernization program in place designed to improve equipment availability and readiness. Existing ships are being replaced with newer and larger vessels that have been specifically designed to store cargo at sea. As the equipment is downloaded in preparation for transfer to the new ships, it is

modernized and refurbished to like-new condition. This modernization and refurbishment will help improve the combat capability of United States Army units that have to use this equipment. The transfer, upgrade, and modernization of equipment on to the new ships are scheduled to be complete by Fiscal Year 2001.⁵⁴ From 1997 to 1998 five large, medium-speed, roll-on, roll-off (LMSRs) ships were completed and named for United States Army Medal of Honor recipients.

Fifteen new or reconditioned ships will be available by Fiscal Year 2003. These ships will include "eight LMSR vessels, two container ships, two ammunition ships, two heavy lift ships, and one crane ship."⁵⁵ This increased ability will allow the United States Army to respond to any regional contingency with eight heavy combat brigades. The United States Army continues to invest in sealift capability so it can provide the flexibility required by defense planners to meet contingency operations around the world.

Section three. Airlift

Strategic airlift is the time-critical component to the ability of the United States to project its land forces. Airlift is the element in the defense transportation system that allows the United States to deploy its forces anywhere within a matter of hours and then to sustain them until sealines and landlines of operation are established. Airlift is a national asset "providing our leaders with tremendous flexibility in responding quickly to political and humanitarian crises worldwide."⁵⁶

The current fleet of Department of Defense strategic airlifters includes three types of cargo planes and two varieties of tanker aircraft. The cargo planes consist of the C-141, C-5, and the new C-17. These aircraft are particularly suited to

moving military equipment. Their wings are located high on their fuselage and they have ramps that are low to the ground so equipment can be moved on and off the aircraft quickly. The C-5 and C-17 both have very large doors opening into unobstructed cargo bays that can carry the largest pieces of military equipment. The C-141 can carry payloads up to twenty-three tons, the C-5 sixty-five tons and the C-17 forty-five tons.⁵⁷

The tanker aircraft consist of the KC-10 and KC-135 tankers. Both of these aircraft are modified versions of civilian planes that have the ability to carry loads of passengers, baggage, and bulk cargo on standard sized pallets. The KC-10 is a modified version of the McDonnell Douglas DC-10 with a payload capacity of forty tons. The KC-135 is a modified version of the Boeing 707 that is used to refuel aircraft in flight. It has the ability to carry ten tons in addition to the fuel it carries. Both these aircraft require special equipment to load and unload equipment. This requirement makes them impractical for all military operations. The Department of Defense plans to convert thirty-seven KC-10's and twenty-six of its nearly 500 KC-135's for airlift missions.⁵⁸

With the increasing importance of strategic mobility in the United States defense strategy, it is imperative that airlift be utilized in the most efficient manner possible. In a typical week, the Air Mobility Command flies over 1100 missions with the Air Guard and Reserve playing a crucial role in carrying out these missions. Daily, the Air Guard and Reserve is responsible for providing about twenty-five percent of the airlift capacity. When they are fully mobilized, they are responsible for over one-third of that daily capacity. They also have the preponderance of the

personnel in their ranks that fly these types of missions. "About fifty-five percent of strategic airlift crews, forty-five percent of the air refueling crews, and sixty-six percent of aerial port personnel are in the reserve component."⁵⁹

A critical component of the United States strategic airlift capability is the Civil Reserve Air Fleet (CRAF). It provides operational flexibility for the expansion of airlift capability during crises, contingencies, or war. The United States Air Force counts on the Civil Reserve Air Fleet (CRAF) to provide a cargo capacity of twenty and one-half millions of ton-miles per day (MTM/D).⁶⁰ If the entire participating fleet of aircraft were activated, the program would provide nearly twenty-eight millions of ton-miles per day (MTM/D) or almost forty percent of the military's capacity to airlift cargo. The cost of replacing this capacity with military aircraft would have cost the government about three billion dollars a year over thirty years.⁶¹

The Civil Reserve Air Fleet (CRAF) is a voluntary partnership between the Department of Defense and participating commercial air carriers. "As of January 1997, eleven passenger and sixteen cargo airlines had enrolled a total of 508 long-range international aircraft in CRAF."⁶² The Civil Reserve Air Fleet (CRAF) was activated for the first time since its creation in 1952 during Operation Desert Shield and Storm. When initially activated, they provided the Air Force with an additional seventeen international passenger aircraft and twenty-one international cargo planes. By the end of the Gulf War, the Department of Defense used seventy-seven passenger and thirty-nine cargo planes from the Civil Reserve Air Fleet (CRAF) to support its missions. These planes carried more than 400,000 personnel and 171,000 tons of cargo on more than 3,600 missions.⁶³ By all accounts, the

participants in the program performed superbly during deployment, resupply, and redeployment of Operation Desert Shield and Storm.

The Joint Chiefs of Staff through the Mobility Requirements Study have determined that the United States Military requires an airlift force capable of "moving forty-nine to fifty-two million ton-miles per day (MTM/D)"⁶⁴ to support two, nearly simultaneous, Major Theaters of War (MTW). The United States Air Force has the capability to move about forty-nine million ton-miles per day. This would meet the basic requirements of the Joint Chiefs of Staff if airlift capacity were not declining.

For many years, the Air Force has relied on the C-141. By Fiscal Year 2005 the C-141 aircraft will be retired because of age, overuse, and a somewhat limited capacity. The replacement of the C-141 and its lost capacity is driven heavily by wartime needs in the early days of a conflict. Because most civilian aircraft cannot carry the outsized equipment of the United States Army, a replacement for the C-141 is needed.

The strategic platform that the United States Air Force, and in great part the United States Army, is depending on to replace the C-141 and accomplish its part of the Department of Defense force projection program is the C-17A Globemaster III. It is the number one priority for the strategic airlift forces and the centerpiece of airlift modernization. As an essential asset to United States power projection it can "carry our outsized equipment, land at a large number of short and unimproved runways, and fly over 5,000 miles unrefueled."⁶⁵ It has an operational crew of three, "improving efficiency and reducing risk and operator cost compared to other airlifters."⁶⁶

Each C-17A Globemaster aircraft cost the United States Taxpayer about 190 million dollars. Initial delivery and performance of the aircraft were not well received by either the Department of Defense or Congress. Many of the aircraft were delivered late, did not perform as expected, and cost more than they were originally contracted to cost. The original cost overruns, late deliveries of the aircraft, and performance shortfalls have been corrected. Recent deliveries of the aircraft have been ahead of schedule and under cost. "Technical and quality control problems are now largely in the past."⁶⁷ The first operational squadron is performing well and the aircraft has set twenty-two world performance records.

Currently, the production plan calls for delivery of 120 C-17As by Fiscal Year 2003. The Department of Defense has stated that it requires 160 aircraft. Finding the additional funding for the forty aircraft is problematic. The acquisition of 120 of the C-17A Globemaster will only replace the lost capacity of the retired C141. Because the purchase of the C-17A only replaces lost capacity, the Defense Acquisition Board (DAB) is looking at Non-Developmental Airlift Aircraft (NDAA). The acquisition of these 'off-the-shelf' aircraft would give the Department of Defense an increase in the capacity of the airlift fleet.

There are two primary candidates under consideration to augment the purchase of the C-17A. The two aircraft include a modified 747 and an update to the C-5. Both of these aircraft would provide a substantial boost in the Department of Defense lift capacity. They also cost less than the C-17A. However, they are both inherently more limited than the C-17A. They would not be able to match the unique abilities of the C17A in its integrated defense system, low-level tactics, and

assault landing techniques. Because of these limitations, these 'off-the-shelf' aircraft would place their crews at a greater risk than the C17A does.

Until more funds can be found for the additional forty C17A aircraft or until a decision is made on a Non-Developmental Airlift Aircraft (NDAA), the C17A, in conjunction with upgrades to the existing C-5 heavy-lift aircraft, is intended to enable the United States Air Force to fulfill their airlift requirement to the other services.

Section four. Sealift

Strategic sealift is as equally as important to the United States as strategic airlift. Sealift is often overlooked because it is not as fast as airlift, but it has done and will continue to do the majority of the hauling for the United States Army. While airlift is faster, it would take "virtually the entire C-5 fleet of 120 aircraft"⁶⁸ to move even a single battalion sized heavy armor unit and its associated equipment. One ship in the sealift fleet is able to accomplish this feat with additional room left over.

During the Persian Gulf War, the "Department of Defense transported seventy-two percent of its dry cargo on ships that steamed from the United States."⁶⁹ In addition, ships that held pre-positioned equipment close to the region supplied another thirteen percent. In total, eighty-five percent of the requirements for Operation Desert Shield and Storm were delivered using ships, not aircraft. Ships are much slower at delivering equipment, but they are generally less expensive to purchase and operate than aircraft and a single ship can carry literally hundreds of planeloads of supplies.

Sealift's role in any future war is characterized as one of either surge or sustainment. These are the two types of ships in today's strategic sealift fleet. The type of equipment the individual ships carry and deliver to a theater distinguishes whether or not they are surge or sustainment ships. In a surge role, ships carry equipment for combat, combat service support, and combat support units from their peacetime garrisons to a theater. This equipment includes large numbers of vehicles such as tanks, infantry fighting vehicles, artillery, and trucks. The sustaining operations focus on delivering supplies of spare parts, food, water, fuel, and ammunition.

The Department of Defense sealift fleet includes about ninety-five ships used for surge operations. These ninety-five ships have the ability to carry approximately seven million square feet of cargo. During the Persian Gulf War, the Department of Defense relied heavily on commercial ships to deliver both surge and sustainment cargo. Defense officials believe that commercial shipping will not be available quickly enough in the future to carry surge cargo requirements. Because the Department of Defense does not believe commercial shipping, with the right types of ships, will be available for surge operations, it purchased these ninety-five ships for its sealift fleet.

The world's commercial shipping is also increasingly turning to container ships. These ships are designed to carry twenty or forty foot containers that must be downloaded at well-developed ports because the ships do not have their own cranes. Sustainment cargo such as food, construction material, spare parts, medical supplies, and ammunition can fit more easily into the twenty or forty foot

containers. Since these types of ships are more readily available than the type required for surge operations, the Department of Defense believes that commercial shipping will continue to be available to transport its sustainment cargo. Because the commercial ships will be available to transport sustainment cargo, the Department of Defense has not invested as heavily into sustainment ships as they have for surge ships.

The ninety-five ships that provide the surge requirement for the Department of Defense are required to be ready in twenty days or less to transport heavy cargo. The United States Navy operates some of the ninety-five ships while many of the ships belong to the Ready Reserve Force (RRF). The Ready Reserve Force (RRF) is a fleet of inactive cargo ships that are maintained by the Department of Transportation's Maritime Administration.

Before the Persian Gulf War, most ships in the Ready Reserve Fleet (RRF) were kept in a five, ten, or twenty-day readiness status. On average, these ships took an additional nine days, beyond what their readiness status called for, to be activated for the Persian Gulf deployment. Both the Departments of Defense and Transportation found this unacceptable. New readiness categories for vessels in the Ready Reserve Fleet (RRF) that will transport equipment with the highest priority have been established. These ships, known as reduced operating status (ROS) ships, have nine- or ten-man crews assigned to the vessels on a permanent basis. They undergo either annual or semi-annual sea trials and are required to be kept closer to the port at which it would load its equipment.

The United States Navy relies mainly on three types of ships to support their contractual obligation with the Department of Defense for power projection. These three types of ships consist of fast sealift, auxiliary crane (breakbulk), and roll-on, roll off ships. The Navy has adequate numbers of fast sealift and auxiliary crane ships to meet its strategic mobility requirements, but it is extremely short of the large, medium-speed, roll-on, roll-off (LMSRs) ships required to fulfill the United States Army's requirements.

Although the United States Navy is short roll-on, roll-off ships, it is the best-suited vessel for carrying military cargo. "They contain a system of external and internal ramps and open storage bays, which allows stevedores to drive the vehicles on the ship and then park and secure them quickly."⁷⁰ Because the roll-on, roll-off ship is the best-suited vessel for military cargo and the United States Navy is short these vessels, the United States Congress appropriated funds for sixteen of these vessels at an average cost of 314 million dollars. Eleven of these ships are being built from scratch and five are being converted from container ships purchased from commercial shippers.

Before the Persian Gulf War, the most common type of military vessel available was the breakbulk. They are general cargo ships that "have their own system of booms, cranes, and winches to load equipment into cargo holds."⁷¹ The United States Navy believed that because the breakbulk carried its own system of cranes it could be used to unload its cargo in ports that lacked modern facilities. This is true, but the Navy also discovered that the breakbulk was generally smaller

than the roll-on, roll-off ships and took, on average, between six and seven more days to load and unload than did the roll-on, roll-off ships.

The United States Army requires nineteen of the large, medium-speed, roll-on, roll-off ships. Eight of those will be used to pre-position stocks while the eleven remaining ships will be used to support surge deployments of heavy forces around the world. As of Fiscal Year 1999, the United States Navy only had three of the required nineteen large, medium-speed, roll-on, roll-off ships. With the additional sixteen ships appropriated by Congress on the way, the United States Navy should have sufficient numbers of the large, medium-speed, roll-on, roll-off ships by Fiscal Year 2001.⁷²

Section five. The Power Projection Installation

The third piece of the triad of power projection enablers is the power projection installation. It serves as the springboard for the rapid deployment of United States Army forces in support of the Combatant Commander. Army installations are undergoing renovations to improve their rail systems, airfield and port operations, and large installation storage facilities. The identification and prioritization of infrastructure improvements at important power projection installations and ports is accomplished through the Army Strategic Mobility Program (ASMP). The Army Strategic Mobility Program (ASMP) has been designed to implement the mobility recommendations from the Department of Defense Mobility Requirements Study (MRS).

The upgrades and expansions include not only United States Army specific installations but also facilities belonging to the United States Navy, such as the

Charleston Naval Weapons Station and the West Coast containerized ammunition port facility. In Fiscal Year 1998 the United States Army spent seventy-five million dollars to enhance its power projection capability and in Fiscal Year 1999 they spent seventy-eight million dollars.

To meet its power projection requirements the United States Army will spend three and one half billion dollars to improve strategic mobility between Fiscal Year 1998 and 2003. Some of this money goes beyond the Army's commitment to invest in the improvement in installations. In Fiscal Year 1999, the United States Army spent nine million dollars on shipping containers, sixteen million on railcars, and fifty-one million dollars on Army watercraft to improve its power projection capability. To help track all these new power projection enablers, the United States Army spent thirty-one million dollars on movement control hardware and software and then spent twenty million dollars for strategic deployment training.

Section six. Evaluating Lift Requirements and Capabilities

The Mobility Requirements Study Bottom-Up Review Update (MRS BURU) conducted in 1995, sets the Department of Defense numerical requirements for strategic mobility forces. How do planners decide how much and what type of strategic lift is best? The planners for the Mobility Requirements Study were required to make a large number of assumptions. Those assumptions were then grouped into three broad categories. The three categories include,

the nature of whom the United States would need to fight and how that foe might prosecute an attack; which United States forces would be sent to the conflict and whether they would be ready to deploy; and whether military and commercial planes and ships would be available and would operate as expected.⁷³

First, the planners for the Mobility Requirements Study closely followed the assumptions given the two-war planning scenario outlined in the Department of Defense Bottom-Up Review. "The authors of the MRS BUR first identified how much force they believed the United States would need to halt enemy assaults on the Korean Peninsula and in the Persian Gulf Region."⁷⁴ The Joint Chiefs of Staff and other Department of Defense analysts then used computer simulations of combat in these two theaters and attempted to forecast when certain units would need to arrive in order to limit risk to the deploying units. Finally, the analysts overlaid the requirements for cargo deliveries to determine what combinations of mobility forces would allow the Department of Defense to meet the needs of combat units and combat service support in these two theaters.

These factors were taken into consideration and a subjective judgement was made by the decision-makers at the Department of Defense and Joint Chiefs of Staff. Based on all these factors, they determined how much lift is enough and what combination of those mobility forces best meet the needs of the United States. Because the decisions on the lift requirements for the United States were based on assumptions, there is a great deal of room for individuals to debate the issues of strategic lift. Some of the most contentious debates have occurred between the military analysts that plan for combat operations and those that plan for the delivery of the force.

This tension between the warfighters and mobility planners is based on how each views their job. Warfighters tend to make plans based on the worst case scenario that their forces might face. They must take into account the risk that their

troops will encounter. Mobility planners, on the other hand, tend to view things more optimistically than their combat arms brethren. The planning that took place for the mobility requirements of the United States was no different. The mobility planners tended to be very optimistic in this case. They assumed that

reserve personnel would be called up quickly, that the weather would be clear, and that the Department of Defense would supplement its military airlift and sealift fleets quickly with commercial transportation.⁷⁵

These assumptions are in great part the catalyst for the debates about whether or not the Department of Defense has planned correctly. The decision-makers had to balance the "cost of investing in mobility forces against the capabilities that those forces would require."⁷⁶ Because uncertainty surrounds the decisions that were made to support the mobility requirements of the United States, the discussion about how much lift is enough and what combination of forces should be purchased will continue well into the future.

CHAPTER 4: Conclusion

The transformation from a forward-deployed Army to a power-projection total force presents many challenges and changes to the way we prepare for the battlefield. Operations Just Cause, Desert Shield and Desert Storm have shown that successful force projection operations often depend on mobilization and deployment sequencing. Future force projection missions, like those throughout history, will demand well-developed operational and logistical planning, force mix, appropriate sequencing into and out of a theater, and a constant requirement for soldier and unit versatility.⁷⁷

Frederick M. Franks, Jr.
General, USA
TRADOC Commander

"With fewer combat units stationed abroad today, the United States needs strategic mobility forces to project its military might."⁷⁸ Strategic mobility is an important capability enabler of Force XXI and the Army After Next as the United States Army continues its transformation from a forward-deployed force to a power projection Army. In the past, United States Armed Forces were oriented on deterring a known enemy, in a known environment, in countries with well-developed infrastructure. Now "no longer a Cold War, forward-positioned force, America's Army is a strategically positioned power projection Army, contributing its unique capabilities to the joint team."⁷⁹

To meet the new realities facing the United States with the fall of the Soviet Union, end of the Cold War, and Congressionally mandated fiscal restraints, the President of the United States issued a new National Security Strategy document in October 1998. This document called *A National Security Strategy for a New Century*, along with the Department of Defense issued National Military Strategy articulated four strategic concepts for the transformation of the armed forces. One

of the strategic concepts developed in the National Military Strategy is power projection.

The power projection strategic mobility strategy of the United States demands that it be able to move personnel and material to any crisis spot in the world quickly and in great enough numbers to achieve quick, decisive mission success.⁸⁰ The future success of power projection and the sustainment of forces deployed are based on the strategic mobility triad consisting of airlift and sealift, prepositioned forces and power projection platforms. "But at a time when all types of federal funding are tightly constrained, it is important to revisit the issue of how much strategic mobility is enough and what mix of lift forces best suits the needs of the United States."⁸¹

The capacity of the United States Armed Forces to deploy forces quickly using its force projection capability is determined by the delicate balance of the mobility triad.

Strategic airlift and sealift assets, prepositioned stocks, and power projection platforms are critical for the Army to deploy its forces rapidly and provide sustained landpower capabilities across the full spectrum of joint military operations.⁸²

In addition, the ability of the United States to "meet regional scenario requirements are dependent on a balance of US Government assets, requisitioned US commercial ships, the stages of the civil reserve aircraft fleet (CRAF), and the varying degrees of allied transport reliance."⁸³

In response to the Persian Gulf War, the United States military conducted two Mobility Requirements Studies (MRS). The Department of Defense conducted these analyses to decide how best to support the power projection requirements of

the United States military as outlined in the National Security Strategy and National Military Strategy. Both of these studies focused on scenarios that military planners believed would place the greatest demand on the power projection capabilities of the United States Armed Forces.

The studies focused mobility requirement's planners of the United States Armed Forces on fighting two nearly simultaneous major regional conflicts located on the Korean Peninsula and in the Persian Gulf. The analysts found, through their computer simulations, that force projection capabilities and budgetary restrictions placed on the purchase of those capabilities often times were in direct conflict with each other. When the analysts attempted to maximize the number of strategic mobility forces within the triad, they found it was too expensive. When they attempted to control costs, they found they did not have enough lift to move the numbers of forces that were needed to fight in these two regions.

The outcome of these simulations led to an estimate on the number of planes, sealift ships, power projection platform upgrades, and pre-positioned forces required by the Department of Defense to deliver military forces within a specific time. With the competition for federal resources as tight as it is, the cost of purchasing and operating strategic lift forces is very important.

Airlift is inherently more expensive than sealift or the pre-positioning of equipment. Any strategy developed that called for a large number of cargo planes was going to be more expensive than one weighted in favor of sealift or pre-positioning. Conversely, any strategy that called for a large number of ships and

prepositioning of equipment was going to be slower in the delivery of forces than one that had a large number of cargo planes.

During the time that the Mobility Requirements Studies (MRS) were being conducted, and following the Persian Gulf War, the United States Army changed some aspects of its force structure. During Operation Desert Shield, the two divisions that were deployed early only had two active duty brigades each. Immediately following the return of United States forces from the Persian Gulf, all active duty divisions were each assigned a third active duty brigade. This restructuring has increased the average number of troops assigned to United States mechanized and armored divisions. In addition, as the United States Army has modernized its equipment and reorganized the force, combat divisions have grown heavier. As equipment has been added to the force, the combat divisions have also increased the requirement for more floor space. The addition of troops, weight, and space requirements to combat divisions will add additional mobility requirements for transporting units if steps are not taken to lighten these units.⁸⁴

With limited force projection capabilities available and an increase in the weight and amount of equipment in the Army's current combat divisions, General Eric K. Shinseki has embarked on an ambitious program to lighten the force. General Shinseki believes that the reduction of the weight of the United States Army can be accomplished in two ways. First, weapons systems should have a maximum weight limit. This reduction in weapons systems weight will help the Army After Next achieve the maneuverability envisioned in *Joint Vision 2010*. Secondly, there must be a corresponding reduction in the associated support that

must be deployed. This includes a reduction in the requirement for fuel and power consumption, and an increase in the reliability of parts and systems.

The Army Strategic Mobility Plan (ASMP) implements the Congressionally mandated Mobility Requirement Study (MRS) and enhances the ability of the United States Army to deploy itself rapidly. "While focusing on the wartime movement of material, equipment, and personnel, this concept is applicable to distribution operations in all types of operations."⁸⁵ These improvements will go a long way towards relieving problems faced in transporting the United States Army.

The mobility requirements of the Department of Defense are based on a subjective judgement and are what decision-makers in Congress believe is a reasonable balance between cost and capabilities. "Because of uncertainties in forecasting mobility requirements, it is hard for policymakers to know how much lift the United States needs for the future and how it should be apportioned among airlift, sealift, and pre-positioning."⁸⁶ Disagreements with the assumptions that were made in the studies and the implications for the lift capabilities of the United States are and will continue to be at the bottom of the ongoing strategic mobility debate. Although differences abound about the strategic lift capabilities required by the United States military, the United States Army remains relevant in today's world.

Since 1991 and the end of the Persian Gulf War, the United States Congress has invested billions of dollars improving the deployability of the armed forces. They accomplished this by specifically targeting abilities in the strategic triad of airlift and sealift, pre-positioned stocks, and power projection installations. This increase in the strategic mobility of the United States Armed Forces has resulted in an ability

to respond rapidly to crises around the world. Although there has been an increase in the ability to deploy forces, those forces are still bound by physics. More specifically, the ability to deploy forces will always be affected by time.

General Shinseki is attempting to mitigate the effects of time on the physics of the problem by making the United States Army smaller, more lethal, and survivable. These medium-weight forces will meet the criteria outlined in chapter one by being more rapidly deployable from stateside bases, have the ability to conduct a forced entry into enemy territory, and following the initial shock of the assault, have the ability to exploit weaknesses in the enemy. The introduction and success of the medium-weight brigades will help the United States Army become more responsive, ready, and relevant to the needs of the National Command Authority and the geographic operational commander. With the increase in deployment platforms and lighter more responsive forces the United States has postured itself to continue to be relevant to future events around the world.

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